

19. Discuss the single-cell protein (SCP) production, including the cultivation of *Spirulina* and its applications as a protein supplement.
20. Explain the types, importance, and advantages of biofertilizers.
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APRIL/MAY 2025

**23UEBC42 — MICROBIOLOGY II  
(ELECTIVE IV)**

Time : Three hours

Maximum : 75 marks

**SECTION A — (10 × 2 = 20 marks)**

Answer ALL questions.

1. Identify the main mode of transmission for *Escherichia coli*.
2. List the common symptoms of histoplasmosis.
3. Describe the primary symptoms of rabies.
4. Explain swine flu and its causative virus.
5. Mention the major sources of airborne microorganisms.
6. Define biological sewage treatment.
7. State the key sources of microbial contamination in food.
8. Name some common preservatives used in food preservation.





9. Define biopesticides.
10. List some nitrogen-fixing microorganisms.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Describe the symptoms and control measures for *Mycobacterium tuberculosis* infections.

Or

- (b) Illustrate the clinical manifestations and treatment of athlete's foot (*Tinea pedis*).

12. (a) Describe the symptoms and control measures for polio.

Or

- (b) Outline the symptoms and prevention strategies for dengue fever.

13. (a) Discuss the symptoms and control measures for cholera as a waterborne disease.

Or

- (b) Explain the steps involved in the chlorination process of water purification.

14. (a) Interpret the steps involved in the production of wine.

Or

- (b) Outline the fermentation process for producing yogurt.

15. (a) Discuss the role of phosphate-solubilizing microorganisms in plant growth.

Or

- (b) Explain the importance of nitrogen-fixing microorganisms in soil fertility.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Discuss the epidemiology, symptoms and prevention of gastrointestinal diseases caused by *Escherichia coli* and *Vibrio cholerae*.
17. Elaborate on the protozoan diseases malaria, including their causative organisms, symptoms, modes of transmission, and control measures.
18. Describe the various methods of sewage treatment, including physical, chemical, and biological processes, and their role in environmental protection.

